

REMARKS

Claims 577-600 were previously pending. Claims 577, 590 and 600 are amended herein. Claims 577-600 are pending in the present application. In view of the following remarks, the Applicant respectfully requests reconsideration of the rejections and allowance of the application.

Examiner Interview

The Examiner and the Applicant's agent engaged in a telephonic interview on April 8, 2010. During the interview, the patentability of representative claim 1 was discussed in view of proposed amendments and arguments. No agreement was reached regarding the patentability of the pending claims. The Applicant thanks the Examiner for the interview.

Rejections under 35 U.S.C. § 103

The Examiner asserts that claims 577, 580-583, 587-590, 592, 594-598, and 600 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "A Multimedia Synchronization Protocol for Multicast Groups" (*Benslimane*) in view of "Precision Synchronization of Computer Network Clocks" (*Mills*). *Office Action*, 5 (also see *Office Action*, 9 with respect to claim 586). The Applicant respectfully disagrees with the rejection for at least the reasons discussed below.

In re Keller

The Applicant notes that the Examiner's response to selected portions of Applicant's arguments was to indicate "one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642, F.2d 413, 208 USPQ 871

(CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).”
Office Action, 3. To expedite prosecution, the Applicant has addressed each reference cited against the pending claims below. Accordingly, the Applicant respectfully requests the Examiner address the substance of the Applicant’s remarks for each claim element.

The cited references fail to disclose a source device that is configured to transmit a media stream, wherein the media stream comprises source-clock information related to an independent clock associated with the source device and media data.

Benslimane and Mills fails to disclose a source device configured to transmit a “media stream” comprising “source-clock information related to an independent clock associated with the source device” and “media data” as set forth in independent claims 577 and 577 (emphasis added). Benslimane discloses a protocol for estimating synchronization times for devices based on a messaging hand-shake mechanism. A request message is sent by a source to receivers. The receivers receive the message and send a response message to the source. The source receives the response messages from the receivers and notes the slowest response. Benslimane, § 3.1.1. Clients retransmit and transmit subsequently received media data based on a “SYNC message” that includes an arrival time period, delay, transmission rate, and maximal delay received from the source and determined via messages. Benslimane, § 3.1.1.

Mills discloses a mechanism for synchronizing computer clocks over the Internet. Mills, Abstract. A Network Time Protocol (NTP) requires a server to send a time-stamped message to subnet peers via Internet topology. Each subnet peer receives and returns the message via the topology comprising the Internet, wherein the messages include a time stamp added by the subnet peer. One of

the subnets is designated as providing the most accurate time based on interval intersections and clustering and likelihood principles. *Mills*, § 2, p. 2-3.

Benslimane does not disclose a source device that transmits a “media stream” which includes both “source clock information” related to a source device independent clock and “media data” as recited in claim 577. *Benslimane* discloses transmitting messages by a server to a client and determining delay time based on return messages received by the server from each client. There is no disclosure in *Benslimane* that the “messages” include any “source-clock information” or that they include “media data” as claimed in claim 577.

Mills does not cure the deficiencies of *Benslimane* with respect to a media stream which includes both “source clock information” related to a source device independent clock and “media data.” Similar to *Benslimane*, *Mills* discloses transmitting “messages” between a server and subnet; the “messages” are to identify a subnet suitable to provide an accurate time over the topology of the Internet. There is no disclosure in *Mills* that Internet-based messages between a server and a subnet include “media data.”

***Benslimane* does not disclose a time differential determined by the playback devices based on information included in the media stream (i.e., the source-clock information) and the independent clocks associated with the playback devices themselves as set forth in claim 577. Therefore, the time differential of claim 577 is determined at the playback devices.** *Benslimane* discloses determining an arrival time period by a “server” which records the time a message is sent and the time a corresponding response arrives at the server; the arrival time period is determined *independently* of any clock in the client. As such, *Benslimane* does not disclose “**determining a time differential between the first independent clock associated with the source device and one or**

more second independent clocks associated with one or more playback devices” wherein the “time differential based on the source-clock information received from the source device” as recited in claim 25.

Combining the systems of *Benslimane* and *Mills* would not make the subject matter of claim 25 obvious. *Benslimane* discloses clients that restructure and transmit received media data based on a “SYNC message” generated from the roundtrip arrival time of a message sent by a server to a client. *Mills* discloses transmitting messages between a server and subnet to determine which subnet provides an accurate time over the Internet. The combination of *Benslimane* and *Mills* would result in Internet-based client devices that restructure and transmit received media data based on a “SYNC message” derived from roundtrip arrival data of “messages” sent between an Internet server and the Internet-based client. The combination of *Benslimane* and *Mills* does not teach that a “media stream” includes any “source-clock information” and “media data” as claimed in claim 577.

The Applicant respectfully disagrees with the Examiner’s interpretation of *Benslimane* and *Mills* with respect to disclosing a “media stream.” In support of the rejection of claim 577, the Examiner indicates that *Benslimane* discloses a “source device configured to transmit a media stream.” *Benslimane* discloses that a “message” is sent from a server to a client device, and a message is returned by the client to the server. *Benslimane*, § 3.1.1, at “Description.” There is no disclosure that the “message” of *Benslimane* is a media stream. *Mills* similarly discloses sending a singular “message” without any media; there is no disclosure in *Mills* regarding transmitting media data via a media stream.

The Examiner appears to suggest that under the broadest reasonable interpretation, a stream of media may include a single message with no media. The Applicant respectfully disagrees. “Media” is widely known to those of ordinary skill in the art of data processing and transmission to include images, audio and video, and “stream” is likewise known by those of ordinary skill in the art as a continuous transfer. (see *Benslimane*, § 1, Introduction, LHS). Notwithstanding the commonly understood meaning of “media stream,” the Applicant has amended claim 1 to indicate that a media stream includes “media data” in addition to the “source-clock information.”

The cited references fail to disclose one or more playback devices configured to output a media stream via two or more playback devices in synchrony based on a time differential, wherein the two or more playback devices are in synchrony when a user observing the outputting of the media stream is unable to perceive time-delay differences between the two or more playback devices.

The combination of *Benslimane* and *Mills* fails to disclose that “the one or more playback devices are configured ... to output the media stream via two or more playback devices in synchrony based on the time differential, the two or more playback devices being in synchrony when a user observing the outputting of the media stream is unable to perceive time-delay differences between the two or more playback devices,” as set forth in claim 577. The Examiner asserts, however, that *Benslimane* discloses this element in that “sect. 3.1.1 provides for calculating restitution time based on playback offset differential,” while sect. 3.1.2 “provides for inter-client synchronization.” *Office Action*, 6. The Applicant respectfully disagrees with this assertion.

Mills also fails to disclose this element, at least because there is no indication in *Mills* that any media is sent to the subnets.

As discussed in *Response D*, the Applicant believes the Examiner is equating a “playback offset differential” with the time differential of claim 577. **“Playback offset differential” is disclosed in Benslimane, not the claimed embodiments, and is addressed herein to explain why Benslimane fails to teach “output[ting] the media stream ... in synchrony based on the time differential,” as set forth in claim 577.** The Applicant respectfully notes that, in claim 577, the “time differential [is] between the independent clock associated with the source device and one or more independent clocks associated with the one or more playback devices.” Furthermore, the Applicant observes a contradiction in that the Examiner first equates the time differential of claim 577 with the delta of the sync message (*i.e.*, the “ δ_i ” in $\text{SYNC}(\delta_i, d_i, \tau_s, d^{\max})$), as discussed above.

Nevertheless, Applicant disagrees that *Benslimane* calculates restitution time based on playback offset differential. *Benslimane* defines restitution time as:

$$T_{\text{rest } i}^{-1} = h_i + d^{\max} - d_i,$$

where $h_i = s_i + \delta_i + 2 \cdot d_i$. None of the variables that the restitution time is defined by appear to be a playback offset differential. *Benslimane* defines the constituent variables of the restitution time in sect. 3.1.1. as follows:

s_i = local reception time;

δ_i = difference of time between arrival RESPONSE message
from C_i and the one having made the maximum delay;

d_i = delay between the server S and the client C_i ; and

d^{\max} = the maximum delay of all clients.

Clearly, *Benslimane* does not calculate restitution time based on playback offset differential, but rather as a combination of local receipt times, arrival times, and

delays. Moreover, as mentioned above, there is no disclosure in *Mills* regarding outputting any media stream whatsoever. **As such, *Benslimane* and *Mills* fails to teach “output[ting] the media stream ... in synchrony based on the time differential,” as set forth in claim 577.**

The Applicant has provided evidence that the combination of the cited references fail to disclose all of the elements claimed in independent claim 590. Therefore, claim 577 is patentable over the cited references.

Independent claims 590 and 600 include similar patentable elements to those of independent claim 577 and are likewise patentable for at least the same reasons. Furthermore, as a dependent claim incorporates by reference all the limitations of the claim from which it depends (see 35 U.S.C. § 112 ¶ 4), claims 580-583, 587-588, 592, and 594-598 are patentable for at least the same reasons as the independent claim from which they depend.

The Examiner further asserts that claims 578, 579, 591, and 599 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Benslimane* in view of *Mills*, and further in view of Official Notices (*Office Action*, 10) and that claims 584, 585, and 593 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Benslimane* in view of *Mills*, and further in view of U.S. Pub. No. 2004/0203378 (*Powers*). *Office Action*, 12. The Applicant respectfully traverses these rejections. As a dependent claim incorporates by reference all the limitations of the claim from which it depends (see 35 U.S.C. § 112 ¶ 4), claims 578, 579, 584, 585, 591, 593, and 599 are patentable for at least the same reasons as the independent claim from which they depend.

CONCLUSION

The rejection of claims 577-600 under 35 U.S.C. § 103(a) is overcome because the cited references, in combination and separately, fail to disclose each and every claimed element.

A Request for Continued Examination and any extension fees required are included herewith this Response.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-0600 for any matter in connection with this response, including any fee for extension of time, which may be required.

Based on the foregoing remarks, the Applicant believes the rejections to the claims have been overcome, and that the present application is in condition for allowance. The Examiner is invited to contact the Applicant's undersigned representative with any questions concerning this matter.

Respectfully submitted,
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May 7, 2010

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